Qualifying an ENERGY STAR® home built with HOME funds from ADFA

THE STEPS

1. Understand ENERGY STAR® with HERS Index of 70
EPA requires a house qualifying for ENERGY STAR® to be built with "best practices", tight ducts and at least 15% more energy efficient than code as shown by a HERS Index score of 85 or less as determined by a HERS Rater. ADFA is requiring the same ENERGY STAR® verification for houses built using HOME funds EXCEPT the house must be 30% more efficient than code with a HERS Index of 70 or less.

2. Review ADFA's house plans and energy efficiency "prescriptions"
ADFA has five house plans available for this program with energy efficiency "prescriptions" for getting these homes ENERGY STAR® Qualified.

The prescriptions were developed for ADFA by HERS Raters at HERS, Inc., an energy rating organization in Little Rock. If you have question, you may call HERS, Inc. at (501) 663-1300 or email them at greenerhome@comcast.net. They have these ADFA houses modeled in their computers and can assist you with other options or questions regarding the alternatives.

3. Choose a house plan and a prescription
Choose an ADFA house plan and a prescription for that house with a HERS Index score of 70 or less. The lower the HERS Index, the more efficient the house will be.

4. Choose a HERS Rater to work with you
You may contact HERS, Inc. at (501) 663-1300 or go on-line to www.natresnet.org and find a list of HERS Raters in Arkansas.

5. Have your house ENERGY STAR® Qualified.
Qualifying a house as ENERGY STAR® requires the HERS Rater to:

1) model the house from the plans using approved energy rating software for a preliminary rating.

2) inspect the house and complete a Thermal Bypass Checklist to ensure the required "best" practices are used in construction and grade the quality of the installation of the insulation after the insulation has been installed and before it is covered by sheetrock.

3) provide a final inspection at completion to ensure the house was built as planned and test for whole house leakage and duct leakage. Typical duct systems will fail, so work closely with your HERS Rater and HVAC contractor to ensure the ducts will pass the final test. The house cannot qualify as ENERGY STAR® without passing the duct leakage test. The most leakage allowed is 6 cfm (cubic feet-per-minute) per 100 sq. ft. of floor space.

6. Conclusion
The program expects all houses to qualify for Energy Star®, so work closely with your HERS Rater and your builder to ensure they do. Being successful may require additional consulting, testing or inspections along the way. This can cost extra, so be prepared for that possibility.

Start by ensuring prospective builders truly understand what they are bidding on. A pre-bid conference is recommended for all prospective bidders where a HERS Rater can explain the requirements and answer any questions. Insist bidders document specifically what they are doing and the added cost to meet ADFA's requirements to satisfy you they understand.

Common Questions

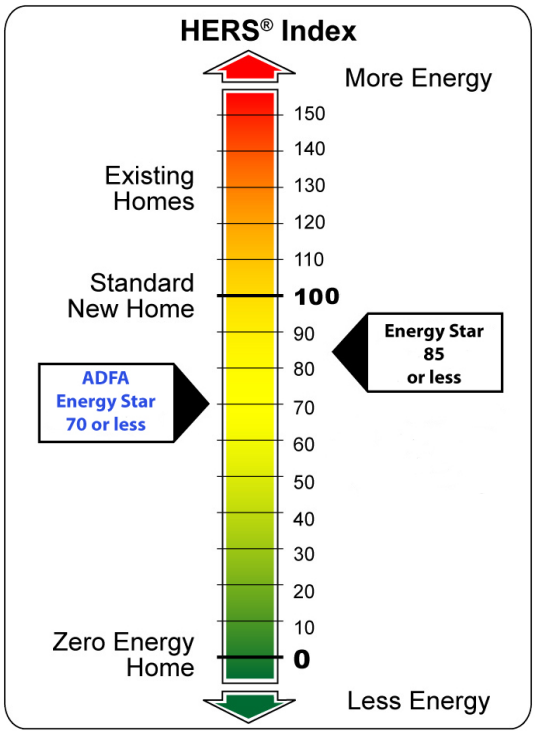
What is ENERGY STAR® based on?
ENERGY STAR® Qualified houses must be 15% more energy efficient than the 2004 International Residential Code (IRC).

The Arkansas Energy Code is based on the 2003 International Energy Conservation Code (IECC) with state-specific amendments.

The IECC is similar to the IRC which encourages energy conservation through efficiency in envelope design, mechanical systems, lighting systems and the use of new materials and techniques. The IECC is similar to the energy related components of the IRC, and is referenced within the IRC, though the two are not always identical.

The HERS rating software generates a HERS Index score for a home by comparing it to itself a "reference home" (which is the same home if it were built to the minimum IECC code).

The reference home always scores 100. ADFA requires your house to score 30% more energy efficient, so the HERS Index of the ADFA ENERGY STAR® home must score 70 or less to meet ADFA requirements.



Do I have to use the prescriptions ADFA has provided?
No. The requirement is for a HERS Index score of 70 or lower. You may have your plans reviewed by a HERS rater who can help you determine how best to attain that score. The rater will model your house on a computer using approved energy-analysis software. There is a cost associated with evaluated house plans. ADFA has provided the pre-approved "prescriptions" in order to simplify the process and reduce the cost to the builder or housing provider.

The HERS Index is based on the overall performance of a house. For instance, a 14 SEER heat pump may work if the slab is insulated. If the slab is not insulated, achieving a score of 70 may require a higher efficiency heat pump plus more efficient windows and/or better-insulated walls. You can choose between higher efficiency windows, HVAC equipment, slab insulation, 2x4 versus 2x6 walls, etc. to come up with a package that best meets your needs and budget. Work with the rater to determine what energy efficiency package will achieve a score of 70 or lower and best meet your needs and budget.

Who should I call if I have questions about the prescriptions or altering a prescription?
The prescriptions were developed for ADFA by HERS, Inc. You may call HERS, Inc. at (501) 663-1300 with questions regarding the prescriptions or alternatives.

Do I have to insulate the slab?
ENERGY STAR® requires slab insulation only in northwest Arkansas (Climate Zone 4A) which includes the counties of Baxter, Benton, Boone, Carroll, Fulton, Izard, Madison, Marion, Newton, Searcy, Stone Washington. Slab insulation is not required in other (Climate Zone 3A) counties in Arkansas, however, slab insulation will help a great deal in achieving a HERS index score of 70 or below in any county in Arkansas.

How do I insulate a slab?
The slab should be insulated vertically around the outside from the top of the slab down to the footer and horizontally underneath for two feet all around the perimeter. Rigid insulation or spray foam insulation should be used (rigid costs less). Typically, the perimeter insulation is glued to the slab after the forms are removed and then protected by brick. Cover and protect the insulation by bricking the entire wall or far enough up from the ground to cover and protect the insulation.

What is a HERS Rater?
A HERS Rater is a trained professional with the knowledge base and skill sets required to pass the RESNET National Rater Test and successfully complete a required number of energy ratings for certification.

HERS Raters provide energy-efficiency strategies and testing for existing and new residential and commercial construction. Home energy raters play an integral part in the ENERGY STAR® process.

Raters offer two major types of services: 1) assistance in reviewing current construction practices and recommended improvements in new homes that will result in ENERGY STAR compliance or tax credits for the builder, and 2) conducting energy assessments of existing homes an recommending improvement measures to reduce energy consumption and improve comfort.

What is a HERS?
HERS is the acronym for a home energy rating system (HERS). HERS program were developed to measure and rate the energy efficiency of homes and allow consumers to compare the energy operating costs of different homes. Think of it as mile-per-gallons for cars or the Energy Guide on appliances.

What is the HERS Index or HERS rating?
The HERS rating is based on a 100-point scaled call the HERS Index. A home built to the 2004 IECC Code would score 100 points on the HERS Index. A house with a HERS Index score of ”0” would be a house that uses zero energy.

There is a corresponding “star” rating that ranges from “One Star” to “Five Stars Plus” depending on the HERS Index.